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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,206	01/16/2002	Yongchun Lee	81962NAB	6290

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EXAMINER

KASSA, YOSEF

ART UNIT PAPER NUMBER

2625

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/050,206	Applicant(s) YONGCHUN LEE	
	Examiner YOSEF KASSA	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01/16/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities: a period is missing at end of claim 4 (see MPEP 608.01 (M)). Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Ma et al (U.S. Patent 6,674,900).

With regard to claim 1, Ma et al discloses an imaging process for producing a clean, readable binary image of a scanned document comprising the steps of (see col. 2, lines 42-51):

- a. digitally capturing a document as a gray scale image (see col. 4, lines 14-19);
- b. performing an image adaptive thresholding, i.e., multi-level threshold, process to convert the gray scale image into a binary image (see col. 4, lines 56-61);
- c. inspecting the binary image to create an image noise index value (the process of setting index I value, reads on noise index value) indicative of the amount of

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undesirable image artifacts, i.e., noise or holes, or image information loss (see col. 4, lines 25-33);

d. determining whether the image noise index, i.e., index I, is equal to or greater than a predetermined threshold value (see col. 4, lines 47-55, note that, the n value (threshold value) is predetermined value from block 110, of Fig. 1, compared with index I); and

e. performing an image correction process, i.e., reduce noise, to produce a readable, clean binary image when said image noise index value is determined to be equal to or smaller than said threshold value (see col. 6, lines 28-40 also see col. 4, lines 50-55).

With regard to claim 2, Ma et al discloses wherein the image correction process comprises digitally capturing the document as a new gray scale image followed (the loop process of Fig. 1, which reads on processing a new gray scale image process) by repeating steps b.)-e.) until the image noise index value falls below the predetermined threshold value (see col. 4, lines 47-55, the process of incrementing the index value, which reads on the image noise index value falls below the predetermined threshold value).

With regard to claim 3, Ma et al discloses the step of storing the gray scale image and the image correction process comprises retrieving the gray scale image from storage followed (see col. 15, lines 27-33) by repeating steps b.)-e.) until the image noise index value falls below the predetermined threshold value (see col. 4, lines 47-55,

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the process of incrementing the index value, which reads on the image noise index value falls below the predetermined threshold value).

With regard to claim 4, Ma et al discloses the step of determining comprises comparing the image noise index for an image with a predetermined threshold value selected to generate the least background noise (see col. 4, lines 27-33) while retaining all the image information on the gray scale image wherein when the image noise index value is at or above the predetermined threshold value the gray scale image is determined to be a noisy binary image requiring correction (see col. 4, lines 50-55).

Claims 5-8 are similarly analyzed as claims 1-4.

Other Prior Art Cited

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. (5,208,871) to Eschbach discloses pixel quantization with adaptive error diffusion.

US Patent No. (5,185,674) to Tai discloses binary resolution decimation method and apparatus.

US Patent No. (5,778,092) to Macleod et al discloses method and apparatus for compressing color or gray scale documents.

US Patent No. (5,832,140) to Stapleton et al disclose automated quality assurance image processing system.

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Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOSEF KASSA whose telephone number is (703) 306-5918. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BHAVESH MEHTA can be reached on (703) 308-5246. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communication and (703) 872-9306 for after Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (703) 306-5631. The group receptionist number for TC 2600 is (703) 305-4700.

PATENT EXAMINER

Yosef Kassa



10/21/2004.